This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) Computer software for automatically generating a <u>graphical</u> user interface for a relational database, said software <u>embodied in a computer readable medium having a set of computer instructions encoded thereon and comprising:</u>

utility software extracting schema information from the relational database and automatically generating corresponding schema and <u>graphical</u> user interface metadata <u>stored in a repository</u>; <u>and</u>

a repository for said metadata; and

user interface software automatically developing from the metadata a user interface appropriate to the relational database.

- 2. (original) The computer software of claim 1 wherein said schema and user interface metadata comprise entities, entity fields, entity relationships, and entity search paths.
- 3. (original) The computer software of claim 2 wherein said schema and user interface metadata comprise entity relationships comprising one-to-many, many-to-one, and many-to-many relationships.
- 4. (original) The computer software of claim 3 wherein said automatically developed user interface comprises context menus specific to type of entity relationship.
- 5. (original) The computer software of claim 2 wherein said schema and user interface metadata additionally comprises platform attributes for abstracting syntactic differences between database implementations.
- 6. (original) The computer software of claim 1 additionally comprising software permitting addition of non-automatically-generated functionality to said developed user interface selected from the group consisting of scripts, external components, business rules, and triggers.

- 7. (original) The computer software of claim 1 wherein said utility software refreshes said metadata after schema changes are made to the relational database.
- 8. (currently amended) Computer apparatus for automatically generating a <u>graphical</u> user interface for a relational database, said apparatus comprising:

means <u>embodied in a computer readable medium having a set of computer instructions encoded thereon</u> for extracting schema information from the relational database and automatically generating corresponding schema and <u>graphical</u> user interface metadata;

repository means for containing said metadata; and
means embodied in a computer readable medium having a set of computer
instructions encoded thereon for automatically developing from the metadata a user interface appropriate
to the relational database.

- 9. (original) The computer apparatus of claim 8 wherein said schema and user interface metadata comprise entities, entity fields, entity relationships, and entity search paths.
- 10. (original) The computer apparatus of claim 9 wherein said schema and user interface metadata comprise entity relationships comprising one-to-many, many-to-one, and many-to-many relationships.
- 11. (original) The computer apparatus of claim 10 wherein said automatically developed user interface comprises context menus specific to type of entity relationship.
- 12. (original) The computer apparatus of claim 9 wherein said schema and user interface metadata additionally comprises platform attributes for abstracting syntactic differences between database implementations.
- 13. (original) The computer apparatus of claim 8 additionally comprising software permitting addition of non-automatically-generated functionality to said developed user interface selected from the group consisting of scripts, external components, business rules, and triggers.

- 14. (original) The computer apparatus of claim 8 wherein said extracting means refreshes the metadata after schema changes are made to the relational database.
- 15. (currently amended) A method of automatically generating a <u>graphical</u> user interface for a relational database, the method comprising the steps of:

extracting schema information from the relational database and automatically generating corresponding schema and <u>graphical</u> user interface metadata;

storing the metadata in a repository; and

automatically developing from the metadata a user interface appropriate to the relational database.

- 16. (original) The method of claim 15 wherein the schema and user interface metadata comprise entities, entity fields, entity relationships, and entity search paths.
- 17. (original) The method of claim 16 wherein the schema and user interface metadata comprise entity relationships comprising one-to-many, many-to-one, and many-to-many relationships.
- 18. (original) The method of claim 17 wherein the automatically developed user interface comprises context menus specific to type of entity relationship.
- 19. (original) The method of claim 16 wherein the schema and user interface metadata additionally comprises platform attributes for abstracting syntactic differences between database implementations.
- 20. (original) The method of claim 15 additionally comprising the step of adding non-automatically-generated functionality to the developed user interface selected from the group consisting of scripts, external components, business rules, and triggers.
- 21. (original) The method of claim 15 additionally comprising the step of refreshing the metadata after schema changes are made to the relational database.